# SERIES 101T

MOISTURE ANALYZER
QUICK START GUIDE

INSTALLATION

The moisture probe may be installed directly into the sample stream through a ½ inch NPT adapter (See Fig. 1). The penetration into the sample stream can be adjusted at initial installation before making-up the compression fitting.

When installation into the sample stream is impractical or not advisable (for reasons of high temperature or when installation of protective filter (coalescing or similar) are required, then the moisture probes may be installed in bypass flow cells (see Fig.1). When moisture probes are installed in bypass flow cells, the sample flow rate should be set between 250 and 500 cc per minute.
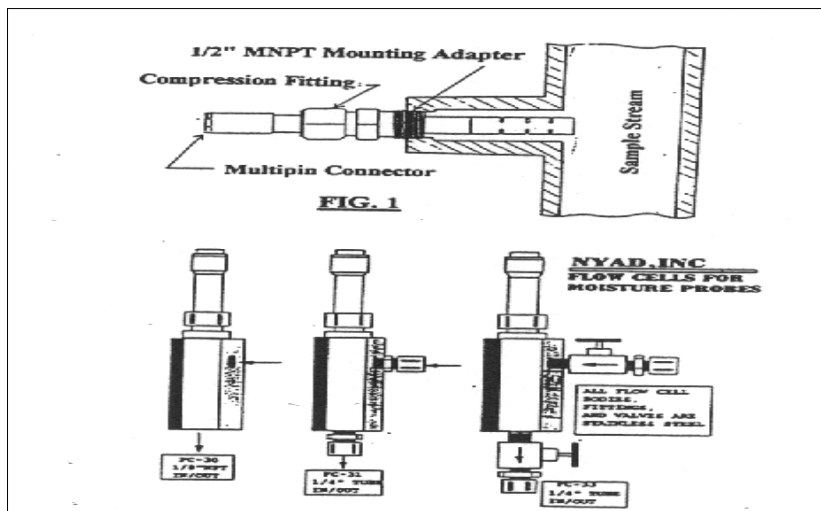
(Fig.1)

1. Connect the signal cable from the instrument to the mating connector on the probe.

   Note: The probe can be installed using a maximum cable length of fifteen (15) feet. If a greater length of cable is required, up to a maximum of one thousand (1,000) feet, please contact Nyad Inc.

2. Connect the instrument to a voltage source.

   Note: Instruments are configured with 115 VAC and 220 VAC. Other specific voltage source are available. ENSURE THE CORRECT VOLTAGE IS APPLIED. CONNECTING TO A VOLTAGE OTHER THAN THAT SPECIFIED MAY CAUSE DAMAGE.

Turn on the power switch located on the right side of the unit. The NYAD SERIES 100T MOISTURE ANALYZER will cycle through it's startup routine. The routine is complete when an LED, above the display, illuminates indicating the currently selected operating units and the current moisture measurement is displayed.

STARTUP ROUTINE

After the instrument and the probe have been installed, connected and power applied, the instrument will proceed through it's startup routine with the display and indicating LED's stepping through the following sequence.
*Note: Each step is displayed for approximately one second.*

a)   All display segments ON – all LED indicators ON. This tests the display and LED's to ensure all are working.

b)   "NYAD" is displayed.

c)   Operating System Version

d)   **"EE 2" is displayed**.
Indicates processor trying to read external memory for probe calibration data.

e)   **"EE 1" is displayed**.
Indicates processor trying to read redundant internal memory. If no data is found there, the processor turns to internal memory.

f)   **"INT" is displayed**.
Indicates all operating data is being taken from internal memory. This will be followed by the internal memory default "9999"

g)   **"A four figure number" is displayed**.
This is the last four digits of the serial number of the moisture probe that has it's calibration data transferred into the instrument data memory.

On completion of the startup routine the measured moisture value is displayed in units of Dewpoint either °C, °F, or concentration PPM, as indicated by one of the three yellow LED's located directly above the display panel. If any alarm condition exists, this will be indicated by one or both of the red LED's (Al 1 or Al 2). The alarm condition will indicate six seconds after the measured value is displayed.

FRONT PANEL CONTROLS

Front Panel Controls permit the selection of functions and changes to be made to units, alarm setpoints, output span, etc. (See Fig 2).

(Fig. 2)
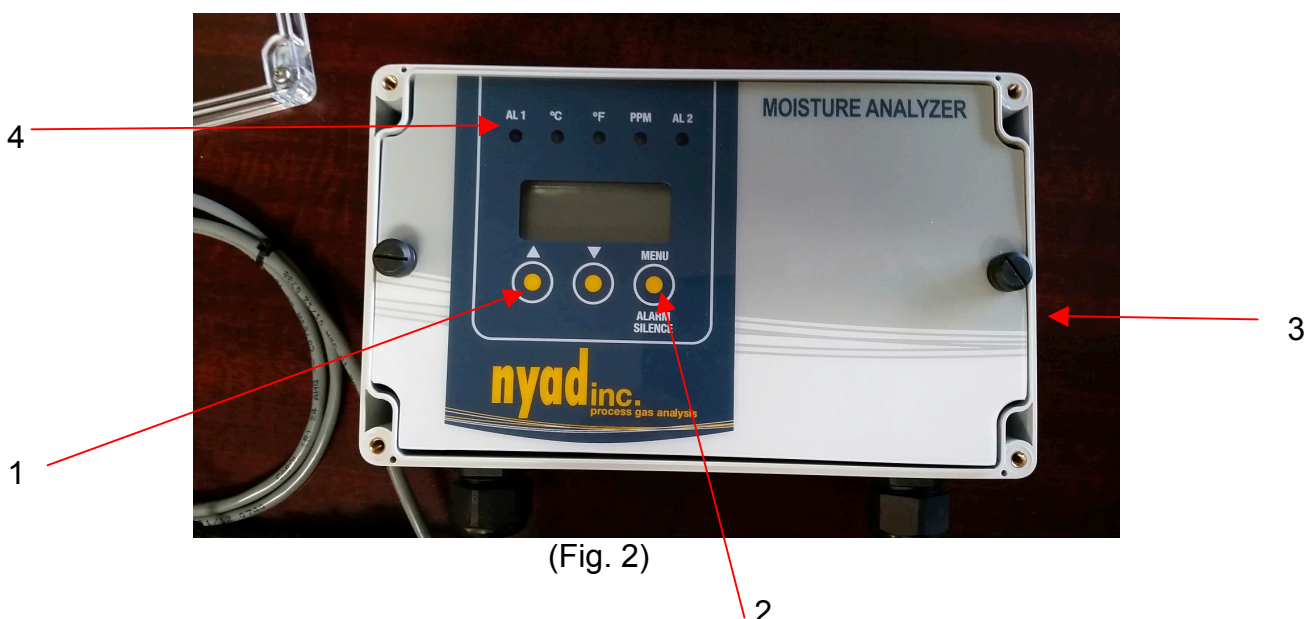
The following switches are available on the front panel:

1) UP/UNITS – DOWN – Push Button.
2) MENU/ALARM SILENCE – Push Button.
3) POWER – On/Off Switch
   (Power Switch is not included on OEM model MA-120)
4) LED lights.

OUTPUT

To connect to 4-20 mA, use the green and orange wires located inside the box.

Relay 1 and 2 are provided to connect to external alarms.

SETTING ALARM POINTS ("AI 1" and AI 2")

All Series 100T models have two alarm indication points, AI 1 and AI 2, indicated by the red LED's located above the display.

All units have two alarm relays as standard (SPDT) 1A @ 120V. There are no signal or voltage through the relays, just open contacts. The alarm relays are energized when the measured value of moisture exceeds the setpoint value of AI 1 and AI 2 for a sustained period of about six seconds.

. a) Find the current Alarm Setpoint values for the selected units

.   1) Momentarily depress MENU once "AI 1" will be displayed, this will be followed, in about one second, by the alarm 1 setpoint value. If no change is made to the setpoint, then in about six seconds "DISP" will flash followed by the measured moisture value

.   2) Momentarily depress MENU three times "A1 2" will be displayed, this will be followed, in about one second, by the alarm 2 setpoint value. If no change is made to the setpoint, then in about six seconds "DISP" will flash followed by the measured moisture value.

. b) Changing Alarm Setpoints:

.   1) Depress MENU switch momentarily until "A1 1" is displayed followed by alarm 1 setpoint value. To increase the value press UP, to decrease press DOWN. A momentary press and release will change the value by one unit. A press and release followed quickly by a press and hold will scroll the value until the switch is released. When desired value is reached no further action is necessary.

.   2) After about six seconds, the display will return to the measured moisture value and the new alarm setpoint will be placed in memory.

.   3) Depress MENU switch momentarily until "AI 2" is displayed followed by the alarm 2 setpoint value. Proceed as listed above in a) and b) to find or change the value of alarm 2 setpoint.

DEFAULT UNITS

NYAD Series 101T Analyzers are preset at the factory with the following default values:

FUNCTION	°C	°F	PPMV	FREQUENCY (Hz)
AL1	-60	-80	10	1000
AL1T	HI	HI	HI	
AL2	0	32	100	7000
AL2T	HI	HI	HI	
AL2H		16		
AL2L		14		
oPLo	-80	100	0	0
oPHi	0	32	100	0000
CON	14.7	14.7	14.7	14.7
CAL	0			

TROUBLESHOOTING

Below are a list of possible error codes and other issues

CODE	MESSAGE	POSSIBLE CAUSE
E-Lo	No Signal from Moisture Probe	1. Bad signal cable 2. Sensor Short or Open 3. Receiver malfunction 4. Sensor needs calibration
Er-Hi	Signal frequency greater than Calibration table values	1. Sample too dry 2. Sensor needs calibration
Er-Lo	Signal frequency less than Calibration table values	1. Sample too wet 2. Sensor needs calibration
EroP	Operator Error	1. Output "oPHi" is out of range

SYMPTOM	CAUSE	REMEDY
Display "hang up" during operation.	Noise induced program interruption	Reset unit by turning power off and on.
Display garbled.	Faulty display.	Power off and on. On power up observe Display. First display all segments. If all display segments are not functioning, replace display.
Display shows E-Lo.	Probe disconnected, bad cable, or sensor failure.	Check probe connection, if O.K. return probe and cable to factory for evaluation.
Display shows Er-Lo.	Sample dewpoint higher than calibration range of sensor.	Check for wet sample. Dry gas should bring unit back on scale.
Display shows Er-HI.	Sample dewpoint lower than calibration range of sensor.	Expose sensor to wet sample. If normal operation resumes recalibration recommended.

Technical Support:

Nyad, Inc. will offer Technical Support via telephone or email. All technical support shall be related to the Nyad Equipment only. Any other technical issues involving other products and services to the Nyad Equipment will not be the responsibility of Nyad, Inc.

Ph (925) 270-3971
Contact: Sales
Email: sales@nyad.com
www.nyad.com

WARRANTY

Nyad, Inc. warrants to the original consumer purchaser that all parts used in the construction or fabrication of the Nyad Equipment will be free from defects in materials and factory workmanship, under normal use and service for five years from the date of delivery.

Warranty coverage provides the necessary repairs or parts replacement found by Nyad, Inc. to be defective due to bad workmanship or faulty materials.

LIMITATIONS OF WARRANTY

The Nyad Equipment is restricted to inspection (FOB the Factory) before warranty is determined, unless other arrangements have been made by Nyad and the original consumer purchaser.

This warranty does not apply to routine service/maintenance, repairs and routine calibration of the moisture sensor every twelve (12) months in accordance with manufacturer's recommendation, or replacements made necessary by fire or water damage, or accident to or improper installation by others, alteration, misuse or abuse to the Nyad Equipment.

This warranty does not cover labor charges or cost incurred for time and expense by other service agencies or personnel involved in maintaining the Nyad Equipment.

Application of this Warranty is further conditioned upon the following: Installation. The Nyad Equipment must be properly installed in accordance with Nyad's installation

procedures and instructions.

Proper Maintenance and Operation. The Nyad Equipment must be properly maintained and operated in accordance with Nyad's maintenance and operating procedures. All service parts must be acquired from Nyad or its authorized representative.

No Alteration. The Nyad Equipment must not have been modified or altered from its original conditions at the date of delivery or installation.

Failure to comply with any of these conditions will void this Warranty.